

CUYAHOGA VALLEY NATIONAL PARK
Programmatic Environmental Assessment for Riverbank Management
of the Cuyahoga River

1.0 INTRODUCTION/PURPOSE AND NEED

1.1 About This Document

In 1969, the United States Congress passed the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) to establish a national policy,

“...which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; ...”

The Act also established the Council on Environmental Quality (CEQ) as an agency of the Executive Office of the President. In enacting NEPA, Congress recognized that nearly all federal activities affect the environment in some way. Section 102 of NEPA mandates that before federal agencies make decisions, they must consider the effects of their actions on the quality of the human environment. The Act assigns the CEQ the task of ensuring that federal agencies meet their obligations under NEPA.

The CEQ developed regulations (40 CFR 1500-1508) that describe the means for federal agencies to develop the Environmental Impact Statements (EIS's) mandated by NEPA in Section 102. The CEQ regulations developed the Environmental Assessment (EA) to be used when there is not enough information to decide whether a proposed action may have significant impacts. If an EA concludes that a federal action will result in significant impacts, it becomes an EIS. Otherwise, it results in a Finding of No Significant Impact (FONSI).

Section 1508.09 of the CEQ regulations states that the purposes of an EA are to:

1. Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a FONSI.
2. Aid an agency's compliance with the Act when no environmental impact statement is necessary.
3. Facilitate preparation of a statement when one is necessary.

Preparation of an EA is also used to aid in an agency's compliance with Section 102(2)E of NEPA, which requires an agency to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.”

The Department of the Interior produced its NEPA regulations as Part 516 of its Departmental Manual (DM), and the National Park Service (NPS) produced several NEPA handbooks. The latest version of Director's Order 12 was issued in 2001 along with the Handbook for Environmental Impact Analysis (the DO-12 Handbook). The NPS has added some requirements that go beyond those imposed by CEQ to help facilitate the requirements of the law that established the NPS (the Organic Act) and other laws and policies that guide our actions. This document has been completed under the guidance of the DO-12 Handbook.¹



Towpath Trail near Sta. 1100+00 adjacent to meander cutoff (River Mile 28.38).

The Towpath Trail and Valley Railway, the most significant linear recreational and cultural features within Cuyahoga Valley National Park (CVNP), are threatened in numerous locations by erosion and bank failures of the meandering Cuyahoga River and its tributaries, which occupy the same valley. The NPS currently addresses this concern through a monitoring program that identifies sites along the Towpath Trail and Valley Railway that are in imminent danger of failure. Stabilization measures

are then constructed at the highest priority sites depending on available funding. While this approach is effective in preventing the loss of portions of the Towpath Trail and Valley Railway, its reactive nature mandates the use of a limited array of stabilization measures that may conflict with CVNP's other environmental objectives.



Valley Railway

Although the Towpath Trail and Valley Railway are the primary features of concern, CVNP also owns several bridges over the Cuyahoga River and other infrastructure. Similarly, although the Cuyahoga River is the primary source of

the erosion and bank failure concerns, its tributaries also have the potential to threaten the Towpath Trail and Valley Railway as well as other cultural, historic and recreational resources. For example, Yellow Creek presently threatens the Valley Railway near Milepost 37.47.

¹ Available over the internet at <http://www.nps.gov/policy/DOrders/RM12.pdf>

This Programmatic EA evaluates the potential environmental impacts of a proposed riverbank management program within CVNP. The “program” would seek to replace the current emergency project-based approach to stabilization with a more proactive and holistic management strategy that incorporates both CVNP’s historical preservation mandates and its environmental objectives. Site-specific NEPA planning/analysis for future individual riverbank management projects will include:

- ❑ A brief description, prepared by the Project Manager, of the project on the NEPA Project Tracking Form. This will include a statement confirming that it fits within the scope of the Programmatic EA.
- ❑ Sending the form to the CVNP NEPA Coordinator.
- ❑ The CVNP NEPA Coordinator issuing an approval to proceed to the Project Manager.
- ❑ Filing of the NEPA documentation for later audit purposes.

This Programmatic EA has been prepared for the NPS by Bergmann Associates (prime consultant) and FISch Engineering (subconsultant) in accordance with the requirements of NEPA, the CEQ regulations of 1978, NPS Management Policies (NPS, 2001a) and NPS Director’s Order #12.

1.2 Background

1.2.1 Park History

The National Park System preserves outstanding representatives of the best of America’s natural, cultural, and recreational resources of national significance. These resources constitute a significant part of the American heritage, its character, and future. Along with similar resources of local, state, tribal, and national significance administered by other public and private organizations and supported by NPS technical assistance and grant funding, CVNP is a vital part of America’s system of parks and other preserved resources. The NPS not only directly and indirectly preserves these irreplaceable national treasures; it also makes them available annually to millions of visitors from throughout both this country and the world.

The Cuyahoga River Valley was formed as the last glaciers retreated from northeastern Ohio about 15,000 years ago. The name “Cuyahoga” is a blend of several native peoples’ names for the river, and is usually translated to mean “crooked river.” The river flows to the north into Lake Erie. It allowed travel by canoe to an eight-mile portage trail leading to the south-flowing Tuscarawas River, which eventually feeds the Ohio River and was therefore deemed neutral territory for all passing tribes.

The Cuyahoga River was the western boundary of the United States from 1795 to 1803. While the early canoe routes were suitable for the Native Americans, early settlers and farmers found the unpredictably swift currents to be treacherous. The Ohio & Erie Canal was constructed along the Cuyahoga in the early 1800’s to provide a much-needed safe and dependable way to ship

products to market. The canal opened in 1827, resulting in a subsequent economic boom in the surrounding area.

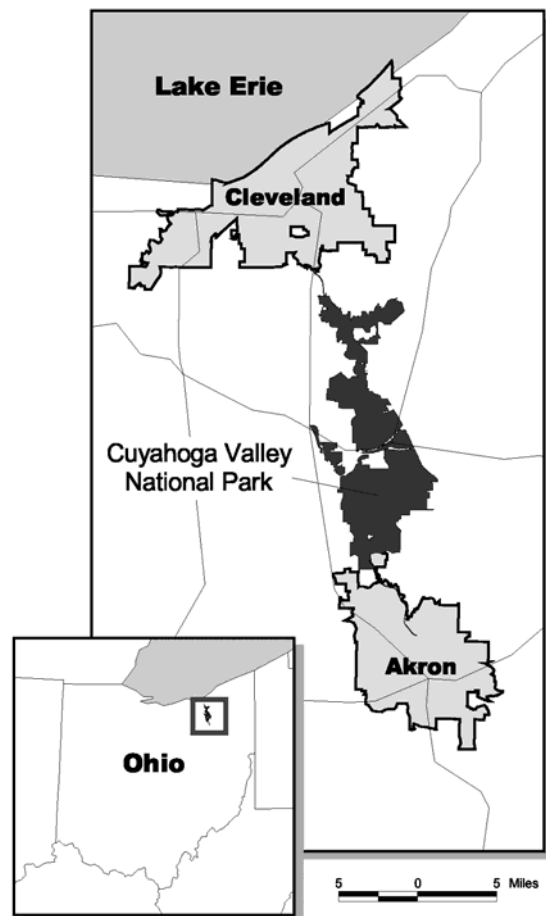
Following a nationwide pattern, railroads replaced canals as important travel and trade routes in the latter half of the 19th Century. In 1880, the first steam engine chugged down the new Valley Railway to transport coal from south of Canton to Cleveland. It also served farmers and merchants along the route, carrying goods and crops. Financial difficulties in 1894 led to the Valley Railway's acquisition by the Cleveland Terminal & Valley Railroad (CT&V). The Baltimore and Ohio Railroad bought the CT&V in 1915 and continued the freight and passenger service between Akron and Cleveland. As the automobile replaced the railroad in importance, passenger service ended on this line in 1963, and the last freight train ran in 1985.

In December 1974, President Gerald Ford signed legislation creating the Cuyahoga Valley National Recreation Area (CVNRA), located along 22 miles of the Cuyahoga River between Cleveland and Akron, Ohio. It covers an area of over 32,800 acres and features a wide variety of natural, cultural, and historic resources. The purposes for the CVNRA included:

... preserving and protecting for public use and enjoyment the historic, scenic, natural, and recreational values of the Cuyahoga River and adjacent lands in the Cuyahoga Valley, and for the purpose of providing for the maintenance of needed recreational open space necessary to the urban environment . . .

Historic resources include the Ohio & Erie Canal (including the towpath), the Valley Railway, and numerous buildings and bridges. Many of these are on the National Register of Historic Places. A portion of the Ohio & Erie Canal National Heritage Corridor, which was established by Congress in 1996 under the Omnibus Parks Bill, runs through the area. The Cuyahoga River is the Park's most significant natural resource. Other natural resources include a number of ecosystems with associated flora and fauna located in the river and in the river valley.

CVNRA developed dramatically in the 25 years following designation, offering many new facilities and programs to the public. "Cuyahoga Valley National Recreation Area" was renamed



Location of Cuyahoga Valley National Park, Ohio.

“Cuyahoga Valley National Park” on October 11, 2000². It is now the 15th most-visited national park, with 3.5 million visitors a year. With a budget that surpasses \$9.5 million, CVNP is approaching the top ten in annual budget.

Three major recreational/educational features have been established in the park, including the 20-mile Towpath Trail, the Valley Railway, and the Cuyahoga Valley Environmental Education Center. These resources enhance opportunities for interpretation of the history of the valley and provide the visiting public with recreational opportunities. The Towpath Trail and the Valley Railway are both listed on the National Register of Historic Places and, therefore, require preservation and protection. A four-mile section of the Towpath Trail is also a designated National Historic Landmark. The Ohio & Erie Canal Corridor Coalition estimates that the Towpath Trail itself receives more than two million visitors each year.

1.2.2 Project History

The Towpath Trail and Valley Railway, the most significant linear recreational and cultural features within CVNP, occupy the same valley corridor as its most significant natural resource – the Cuyahoga River (See Figure 1). The river channel is constrained by steep slopes and man-made confinements: several roads; bridges; the Towpath Trail; and the Valley Railway. The proximity of the Towpath Trail and Valley Railway to the Cuyahoga River and its tributaries results in instances where cultural and recreational resources are in jeopardy of being damaged or destroyed by the natural resource. Such impacts of the Cuyahoga River and its tributaries also result in potential threats to visitor safety. Tripping and falling hazards can develop quickly along a severely eroding bank and excessive settling along the Valley Railway can result in track instability.



The Cuyahoga River cut through bedrock downstream of Peninsula Dam (RM 29.01).

CVNP began a Riverbank Erosion Monitoring Program in 1997 to identify and prioritize these areas of concern in order to protect the Towpath Trail and Valley Railway. Sites are prioritized as HIGH, MODERATE or LOW according to the encroachment risk (distance from the Towpath Trail or Valley Railway to the top of the riverbank), and the susceptibility to erosion (the amount

² Both National Recreation Areas and National Parks are managed by the National Park Service. National Parks are described as “generally large natural places having a wide variety of attributes, at times including significant historic assets,” where “hunting, mining and consumptive activities are not authorized.” Cuyahoga Valley National Recreation Area was one of 12 recreational areas, 5 of which are “located near major population centers. Such urban parks combine scarce open spaces with the preservation of significant historic resources and important natural areas in location that can provide outdoor recreation for large numbers of people.” All land designations in the park system have equal legal standing and differences do not extend far beyond nomenclature (See <http://www.nps.gov/legacy/nomenclature.html>). In fact, the enacting legislature for Cuyahoga Valley that creates a Recreational Area as opposed to a National Park differs only in the name designation.

of bank lost per year along a given plane). Although 36 locations have been identified, new locations are added to the list as conditions change and locations are removed when engineered measures are constructed to repair the riverbank. The 36 locations are all along the Cuyahoga River itself. However, sites may be added along tributaries as conditions warrant. Engineered measures have been typically constructed to repair the riverbank under the Riverbank

Stabilization Program only if it is classified as either a MODERATE or HIGH priority. A low priority site may be repaired using engineered measures if it is in close proximity to another higher priority project thereby resulting in a substantial cost savings to the NPS.

Prior to establishment of CVNRA, approximately 2.7 river miles of bank stabilization were constructed by others. Under the current Riverbank Stabilization Program, 19 projects, involving 1.84 river miles, have been constructed along the riverbank adjacent to the Towpath Trail or Valley Railway (these are not part of the 36 sites currently being monitored). The projects have used a variety of engineered measures that include: stacked gabion baskets, stacked gabion baskets with plantings, riprap, and a riprap toe constructed to the mean annual flood elevation with a combination of bioengineering measures above that point to the top of the repaired bank. CVNP has planned, designed and approved another 0.29 river miles of bank stabilization measures under the Riverbank Stabilization Program. These projects have already been reviewed under NEPA. They consist of a riprap toe with various bioengineering features above an elevation between the mean and dominant discharges. If the 36 sites currently being monitored develop into similar projects, the lengths of bank stabilization would range from 50 feet to 1,150 feet and the total of the projects would be 12,400 feet (2.3 river miles).

The riprap used in past, current and future riverbank stabilization projects, is a locally quarried, grey limestone rock, mined from the Putnam Hill formation, meeting the specifications for ODOT Dumped Rock Fill, Types B and C. For Type B Dumped Rock Fill, at least 85% of the material, by weight, must be larger than 12" but less than a 24" square opening, the minimum D_{50} by weight must be larger than 18", and the maximum size is approximately 24". For Type C Dumped Rock Fill, at least 85% of the material, by weight, must be larger than 6" but less than 18" square opening, the minimum D_{50} by weight must be



Riverbank erosion near MP 62.42 (RM 16.3)



Quarried, grey limestone rock (ODOT Types B and C)

larger than 12", and the maximum size is approximately 18". Dumped Rock Fill in larger (Type A – maximum size approximately 30") and smaller (Type D – maximum size approximately 12") sizes is available and may also be used in future projects.

Although these engineered measures primarily use natural materials (rock riprap, plantings, seeding) instead of manmade materials (sheetpiling or concrete retaining walls), the reactive nature of the projects and close proximity (20 feet) of the threatened feature limit the types of measures that can be used. Under the current program, there is no means for addressing low priority sites with less intrusive measures that could eliminate or delay the need for engineered measures later on. Some less intrusive measures that have been used by the NPS and other agencies include: tree revetments, root wads, and engineered log jams. CVNP also does not have a policy for dealing with trees threatened by erosion that are located at the top of the riverbank, or with tree debris that is conveyed by the river. Both of these conditions have been observed to aggravate riverbank erosion.

1.3 Purpose and Need Statement

The purpose and need statement is a very important aspect of a NEPA document. The CEQ regulations simply require that the document "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." (Section 1502.17). However, a clear statement of purpose and need may limit the range of alternatives available. It will also be used as criteria in evaluating alternatives.

The following, from page 16 of the DO-12 Handbook, describes **need**:

Need is a discussion of existing conditions that need to be changed, problems that need to be remedied, decisions that need to be made, and policies or mandates that need to be implemented. In other words, it explains why your park is proposing this action at this time. It may have elements you would otherwise include in a discussion of project "background." There may be one or several needs that an action will resolve. Need is not a discussion of the need for NEPA or other regulatory compliance, but rather reasons why the park must take action at this time and in this place.

The erosional processes of the Cuyahoga River and/or its tributaries threaten the Towpath Trail, Valley Railway and other CVNP features in various locations. Such impacts of the Cuyahoga River and its tributaries also result in potential threats to visitor safety.

The **need** for this riverbank management program is for the protection of the historic, cultural and recreational resources, employees and the public from the erosional effects resulting from the fluvial processes of the Cuyahoga River and its tributaries within CVNP.

The following, from page 16 of the DO-12 Handbook, describes **purpose**:

Purpose is a statement of goals and objectives that NPS intends to fulfill by taking action. These goals can come from a park's statement of purpose and significance (if the action proposed is a GMP, for instance), from management

objectives or mission goals, from implementing or other legislation, from a GMP or other plan, from standards and guidelines for a particular management zone, from public or staff input, and from other sources. Because some of these objectives also may resolve needs, there may be overlap between purpose and need. The discussion should be limited to those goals and objectives that are critical to meet if NPS is to consider the proposal successful.

The **purpose** of this riverbank policy is to establish a clear program of riverbank management, which will include:

- Preservation and protection the historic, scenic, natural and recreational resources adjacent to the Cuyahoga River and its tributaries within CVNP;
- Provision of safe recreational facilities for the public who use CVNP's resources and for CVNP staff who maintain these resources;
- minimal interference with the natural processes and ecological character of the Cuyahoga River and its tributaries; and
- meeting the need in a reasonable, cost-effective manner.

1.4 Laws (Statutes), Executive Orders, Regulations, Policies and Guidelines

The resources of CVNP are protected under the authorities of the National Park Service Organic Act of 1916 (16 U.S.C. § 1), which established the National Park Service; the National Park System General Authorities Act of 1970 (16 U.S.C. §§ 1a-1 et seq.), which includes all areas administered by the National Park Service in one National Park System and to clarifies the authorities applicable to the system; Part 36 of the Code of Federal Regulations (CFR), which provides for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the NPS; and the park's enabling legislation (Public Law 93-555).

Cuyahoga Valley National Recreation Area was established by Public Law 93-555 on December 27, 1974 and was renamed Cuyahoga Valley National Park on October 11, 2000. Section 1 of PL 93-555 states the purpose of the Park:

For the purpose of preserving and protecting the historic, scenic, natural, and recreational values of the Cuyahoga River and the adjacent lands of the Cuyahoga Valley and for the purpose of providing for the maintenance of needed recreational open space necessary to the urban environment, the Cuyahoga Valley National Recreation Area.... In the management of the recreation area, the Secretary of the Interior shall utilize the recreation area resources in a manner which will preserve its scenic, natural, and historic setting while providing for the recreational and educational needs of the visiting public.

Section 4 (d) of PL 93-555 addresses the duties of the Secretary of Interior:

The Secretary, ...shall inventory and evaluate all sites and structures within the recreation area having present and potential historic, cultural, or architectural significance and shall provide for appropriate programs for the preservation, restoration, interpretation and utilization of them.

In addition to the language presented in PL 93-555 that created CVNRA, general preservation and management direction is provided by the National Park Service Organic Act of August 25, 1916. This act established the NPS and, by extension, states the overall mission for areas managed by the NPS:

... promote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Additional laws, regulations and policies that may have bearing on this action are listed below. See Appendix A for a brief description of each.

- ❑ Antiquities Act of 1906
- ❑ Archaeological and Historic Preservation Act of 1974
- ❑ Archaeological Resources Protection Act (ARPA) of 1979
- ❑ Clean Water Act (CWA) of 1977
- ❑ The Endangered Species Act of 1973
- ❑ Historic Sites Act of 1935
- ❑ The National Historic Preservation Act (NHPA) of 1966
- ❑ The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990
- ❑ Executive Order (EO) 11593 (Cultural Properties)
- ❑ EO 11988 (Floodplains)
- ❑ EO 11990 (Wetlands)
- ❑ EO 13112 (Invasive Species)
- ❑ 40 CFR 1500-1508 (CEQ NEPA regulations of 1978).
- ❑ 43 CFR 3 (Antiquities Act).
- ❑ 43 CFR 7, Subparts A and B (ARPA, as amended), "Protection of Archaeological Resources, Uniform Regulations" and "Department of the Interior Supplemental Regulations."

All of Part 36 of the CFR provides for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the NPS. However, some sections are specifically noted here. See Appendix A for a brief description of each.

- ❑ 36 CFR 60 (NHPA and EO 11593), “National Register of Historic Places.”
- ❑ 36 CFR 63 (NHPA and EO 11593), “Determinations of Eligibility for inclusion in the National Register of Historic Places.”
- ❑ 36 CFR 65 (Historic Sites Act of 1935), “National Historic Landmarks Program.”
- ❑ 36 CFR 68 (NHPA).
- ❑ 36 CFR 79 (NHPA and ARPA), “Curation of Federally-owned and Administered Archeological Collections.”
- ❑ 36 CFR 800 (NHPA and EO 11593), “Protection of Historic and Cultural Properties.”

The NPS Management Policies (NPS, 2001a) provide general guidance for managing natural resources. NPS Management Policy, Section 4.1 provides guidance on when it is appropriate to intervene in natural processes:

The Service recognizes that natural processes and species are evolving, and will allow this evolution to continue, minimally influenced by human actions.... The Service will not intervene in natural biological or physical processes, except:

- *When directed by Congress;*
- *In some emergencies in which human life and property are at stake;*
- *To restore natural ecosystem functioning that has been disrupted by past or ongoing human activities; or*
- *When a park plan has identified the intervention as necessary to protect other park resources or facilities.*

Any such intervention will be kept to the minimum necessary to achieve the stated management objectives.

NPS Management Policy, Section 4.1.5 provides guidance on the restoration of natural systems disturbed by human activity and natural phenomenon:

The service will re-establish natural function and processes in human-disturbed components of natural systems in parks unless otherwise directed by Congress. Landscapes disturbed by natural phenomena, such as landslides, earthquakes, floods, hurricanes, tornadoes, and fires will be allowed to recover naturally unless manipulation is necessary to protect park developments or visitor safety. Impacts to natural systems resulting from human disturbances include the introduction of exotic species; the contamination of air, water, and soil; changes to hydrologic patterns and sediment transport; the acceleration of erosion and sedimentation; and the disruption of natural processes.

NPS Management Policy, Section 4.6.6 provides guidance on watershed and stream processes. This includes erosion, deposition, woody debris, stream migration and watershed management.

The Service will manage watersheds as complete hydrologic systems...The Service will manage streams to protect stream processes that create habitat features such as floodplains, riparian systems, woody debris accumulations,

terraces, gravel bars, riffles, and pools. Stream processes include flooding, stream migration, and associated erosion and deposition.

The Service will achieve the protection of watershed and stream features primarily by avoiding impacts to watershed and riparian vegetation, and by allowing natural fluvial processes to proceed unimpeded. When conflicts between infrastructure (such as bridges and pipeline crossings) and stream processes are unavoidable, NPS managers will first consider relocating or redesigning facilities, rather than manipulating streams. Where stream manipulation is unavoidable, managers will use techniques that are visually non-obtrusive and that protect natural processes to the greatest extent practicable.

The NPS Management Policies also provide guidance for managing cultural resources. Section 5.3.1 provides the following general guidance on protection and preservation of cultural resources:

The National Park Service will employ the most effective concepts, techniques, and equipment to protect the cultural resources against theft, fire, vandalism, overuse, deterioration, environmental impacts, and other threats, without compromising the integrity of the resource.

NPS Management Policy, Section 5.3.5.4.5 provides guidance on the movement of historic structures:

Proposals for moving historic structures will consider the effects of movement on the structures, their present environments, their proposed environments, and the archeological research value of the structures and their sites.

A nationally significant structure may be moved only if:

- *It cannot practically be preserved on its present site; or*
- *The move constitutes a return to a previous historic location, and the previous move and present location are not important to the structure's significance.*

A historic structure of less-than-national significance may be moved if:

- *It cannot practically be preserved on its present site; or*
- *Its present location is not important to its significance, and its relocation is essential to public understanding of the park's cultural associations.*

CVNP's General Management Plan (NPS, 1977) provides the overall concept for management and resource preservation for compatible recreational use. The General Management Plan (GMP) for CVNP states:

The National Park Service will faithfully preserve all significant historic and archaeological resources and will provide for their interpretation, use, and/or protection through adequate research and programming.

It is clear from the above that CVNP is to preserve the historic resources that include the Towpath Trail and the Valley Railway. However, alternatives for doing this involve intervention with the natural fluvial geomorphologic processes of the Cuyahoga River and its tributaries.

The aforementioned references provide the legislative and policy guidance against which the feasible alternatives will be evaluated. The consistent message of the guidance is the need to consider both the continuity of natural processes and the preservation of historic, cultural and recreational features.